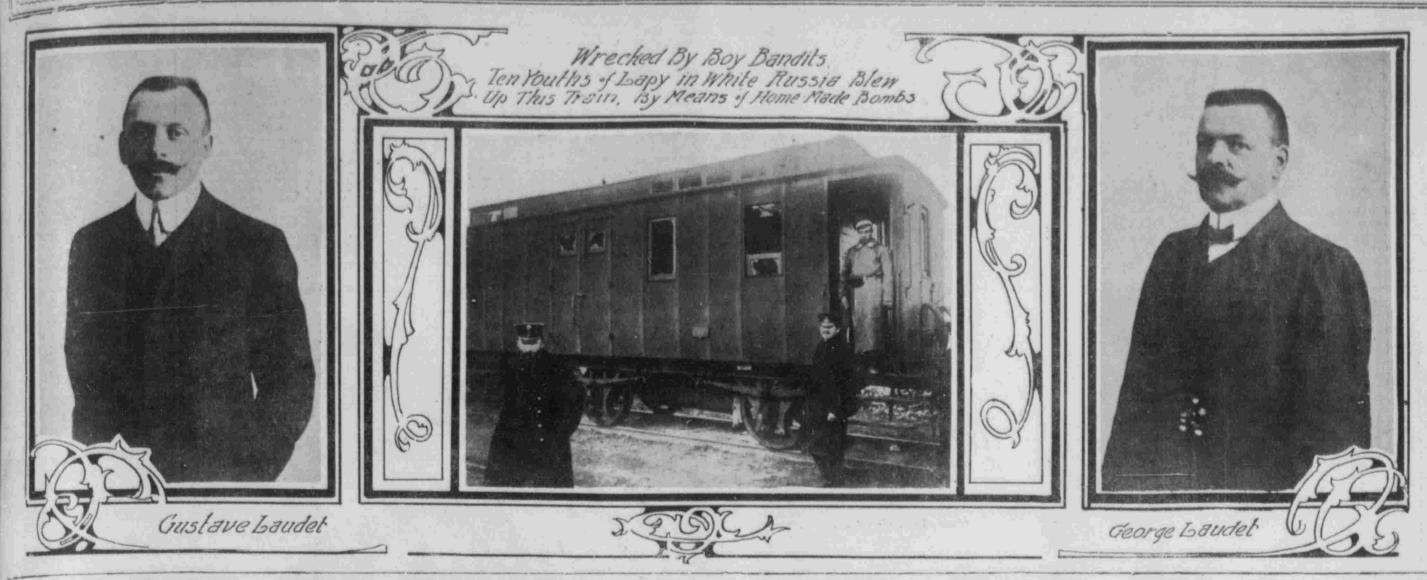
The Saturday "News" Special Foreign Service.



Banner' to be Sung By Fireworks.

D ARIS, Dec. 30.—If the hopes of Georges and Gustave Laudet. two French savants, are realized the world at large will soon be produced to several startling sensaons. For instance we are confidently comised, as the result of their remarkble discoveries in word photography and the reproduction of the human wice by means of explosives, that we shall shortly listen to rockets which, as they shoot into the air and light up as my shoot into the air and light upthe sizes by the brilliant colors, will
say "The Star Spangled Banner" or
"Yankee Doodle." Another result, it is
said, will be the disappearance of ali
total defects in speech, including, of
course, the American twang, and haspaing the coming of the millennium
when the Yankee will be able to make
himself understood to a Cockney withon the aid of an interpreter learned
in the vernacular of each.

the vernacular of each, la days to come, the discovery will sweep out of all recognition, as an sorts to an extent probably unheard of in other countries and certainly unknown in Russia a decade ago.

It is enough to cast a glance at the daily papers published in Russia to see to what a pitch the raiding of trains, banks, shops, etc., by young boys and girls has grown. The officers who sit at court martial affirm that, out he line is blocked;" detonating fuses oder the action of heat can inform a ins distant part of the premises he has been set to watch; and finally, the paking explosive might conceivably used in warfare as a word of com

VOICES REPRODUCED.

Georges Laudet's first discovery with gard to the reconstruction of sound as in 1903 and was obtained by the amountion of detonating gaseous mixa burned in a special burner, the por-less in a state of combustion being estably proportional to the curves presenting the sounds spoken into desparatus. The gas, as it burns, re-produces faithfully the sounds uttered. have results are contained by the aid if special and contained by the side. special apparatus and were com-micated in 1905 to the Academy of invention reproduces all Sence. The invention reproduces all sads, of whatever nature they may be whether sung or spoken, with an meatly equal to eight or ten times not of ordinary speech. This intensity, a slie the power of the apparatus. By the magnified by increasing the resure of the deionating mixture or a composition. The apparatus embered varies according as you wish to mainly the direct voice or reproduce it agaify the direct voice or reproduce if whose or phonograph disc.
For instance, if it is desired to re-

orduce a speech many times over, it must be registered first of all on a mat be registered first of all on a proposed plate which is then appropriate. If, lied to the magnifying apparatus. If, e deliver the speach once, all that is accessive is to speak it directly into the apparatus, which reproduces it, sanded eight to ten-fold without the light defensation.

as already received a one may be seen in longer makes his b show but sings a discovery of the reproduction of cause by detonating gaseous mixtures. The success thus obtained with reside to detonating gases started the boshers along a fresh path of research. Would it not be possible, they said themselves to amply these apply to obtain the curves ha sounds which they fine therefore, they devoted all their forts to photographing sonorous

HUMAN SPEECH CAUGHT.

They were not the first in the field. man speech had aiready been pho-graphed. Dr. Marage had succeeded bhotographing it by using micro-mona. photographics it by using micromon corrects as a medium, but this
bedium is very faulty, for it introsides deformations into the curves
and thus renders abortive any atgraph to secure absolute accuracy.
It is impossible to obtain without the
phenics and shadas of utterance. An
illustration of this deformation is
found in the multation which the
suice undergues in speaking over the

"The Star Spangled THE CHILD CRIMINALS OF RUSSIA BECOME A NATIONAL

Alarming Increase in Infantile Crime and Immorality in the Land of the White Father Has at Last Aroused the Authorities Into Tardy Investigation.

C T. PETERSBURG, Dec. 28,—"Russia's cancerous spot," infant crime and immorality, just now is attracting a great deal of attention throughout the country. Governors of provinces, professors and poice masters are holding meetings where the state of the growing generation is considered, and stringent methods are being taken to stop the appalling growth of child crime, which has besome the curse of the land. The children of the poor have flocked into the criminal ranks to such an extent that criminal ranks to such an extent that 75 per cent of the crimes recorded within the last year have been committed by boys and girls between 16 and 20 years of age, while those of the betterto-do classes, though they do not rob on murder for plunder, throw bombs, indulge in terrible revenges and give way to various inclinations which are worse even than those of their poorer brothers and sisters. Whereas the first category crowd the prisons, the second flock to gambling dens and kindred resorts to an extent probably unheard of in other countries and certainly un-

sit at court martial affirm that, out of every 100 prisoners brought up for trial, less than a dozen are more than years of age. girls who, in more civilized countries, would be at school or apprenticed to some trade. A good half of them are sentenced to death for plunder and murder, or sent to Siberia for 20 years. The rest are set free again, and often re-appear, in a few month's time, charged with some freeth crime, charged with some fresh crime

LACK OF SCHOOLS.

The reasons for this terrible state of affairs are not hard to find. It is due partly to the lack of schools and partly to the parents and the public indifference. A poor man in Russia is not encouraged to have his child educated. In fact, it has been the reason as In fact, it has been the government's policy to keep him as ignorant as possible. From the time he is able to walk the child has the run of the streets and his parents teach him to beg. The beggars in Russian towns are so numerous and importunate that are so inumcrous and importunate that in many places the only way to get rid of them is to get in a cab or board a tram. At every railway station they besiege the carriages and worry the

passengers till somebody throws a handful of coppers to get rid of them. In the majority of cases the beggars are not victims of real destitution. Offer them work and they will not take it. When there is nobody to beg from they steal. Petty theft and pilfering exist everywhere; but they are carried to a high art in Russia.

JUVENILE FUEL THIEVES.

JUVENILE FUEL THIEVES.

A familiar instance of this is to be seen where a public street is being repaired. Small boys and girls are to be met carrying bundles of brand new wooden blocks that they have stolen. By the section of the road under repair they swarm-like flies round ahoney pot. Nobedy takes any notice of them, least of all the workmen. They run up openly to the stacks of wood, take as many as they can carry and run home to return for more. The public who pass look on indifferently: it is not their business. The overseers look the other way; they do not pay for the wood, so it does not matter. It occurs to nobody that this is a question of public interest. And so the children are encouraged to steal. The same thing happens at the coal depots, it is computed that fifty per cent, of the coal brought into the towns is stolen before the trucks have been in the station 24 hours by children whose ages range from six to 12.

"LIVE BY THE KNIFE."

"LIVE BY THE KNIFE."

When the Russian children reach the age of 12 they begin to learn how to us knives, which are as universal in Russia as the stiletto is in Italy. Ninety per cent, of the offspring of the working classes learn no trade. Literally they "live by the knife." Stabbing is so frequent that quiet unarmed people avoid walking in back streets after dusk. It is not uncommon for a woman to be stabbed in the back while passing through a crowded street. The culprit is, of course, a young "knifer" who is learning to stab. Frequently, it caught, he can give no reason for his crime but a desire for practise.

CHILD HOLDUPS.

CHILD HOLDUPS.

In some towns the knife has been discarded for revolvers, given to them by revolutionary adherents, who collect their funds in England and America. These men used boys and girls to murder policemen and officials; now the boy and girls use the weapons on their own account. There is little doubt that the Revolutionaries are much to blame for the tremen-

raid shops and banks. They would send a girl of 10 or 12 first. She entered the building unsuspected and, pulling a revolver from under her shawl, fired. Her accompilees then rushed in, taking advantage of the panic and confusion, and raided the safes and tills. Now that the Revolutionaries have been silenced the boys and girls raid alone. The girl invariably is sent first, in order to disarm suspicion, and the band of infant marauders act in the same way as the Revolutionaries did before them. They rush up to those in the shop, fire or put revolvers to the head of their victims, while the accomplices grab the booty and decamp. As nobody cares to fire at a child the raid generally succeeds.

DESPERATE CHIMINALS.

These young criminals are inferior to their elders in their methods of escape and in getting rid of incriminating evidence. They generally leave some clue that speedily puts the police upon their track. One boy of 14 who helped to raid a country kouse—shooting the squire and his wife—carried off the dead man's fowling piece and tried to sell it a few days later at a fair held in the neighboring town. A laborer from the squire's estate, to whom it was offered, recognized it and had the boy arrested. The whole band was rounded up, and the eldest proved to be no more than 19 years old.

In another case a youthful bandit having stolen a gold watch from the body of a rich farmer he had murdered, immediately tried to pawn it at the nearest town. The pawnbroker, struck by the quality of the workmanship, sent for the police, who searched the boy's room and found proofs that he had taken part in six desperate raids committed in the neighborhood.

MADE THEIR OWN BOMBS. DESPERATE CRIMINALS.

MADE THEIR OWN BOMBS.

What these young criminals lack in What these young criminals lack in-circumspection, however, they make up in intrepidity. It seems almost incred-ible that 10 boys whose ages ranged from 10 to 16 should wreck a train londed with soldiers. Yet this happen-ed a short time ago near a station called Lapy, in White Russia. They put 12 bombs on the line just before the train was scheduled to pass. Some of them were faulty, and so only four-exploded, injuring several soldiers and exploded, injuring several soldiers and exploded, injuring several soliters and killing the engine driver. As the train, like the majority of trains in Russia, was going very slowly, the results were less disastrous than might have been expected. The bomb throwers watched the explosion from the forest additions the plant and fired with readjoining the plant and fired with re-volvers. So soon as the train was stopped the youthful wreckers were

RILLED BY BOYS.

Perhaps the most callous case of crime committed by children occurred in Warsaw in the beginning of September last. A head-walter, who had charge of the beer boys, or picools, in a well known restaurant, was found terribly mutihated at the foot of some steps leading down to the river. As he was treasurer of the waiters' charity fund the police supposed that he had been murdered for the money he was carrying home that evening. But his money was found untouched. An eye-witness of the crime, who had run away to save his own life, told the police that the waiter, Owczak by name, was set upon by half a dozen small boys, who stabbed him with their knives. It developed that they were the piccoles employed in the restaurant. Owczak, a man of excellent character, had complained several times of the piccols' laziness and impertinence to customers and threatened to have the most troublesome one dismissed if things did not improve. Thereupon the piccols held a meeting, at which they determined, as they said, to "uphold their honor" and punish Owczak, They followed him home and killed him. When questioned about the crime t'ey their honor" and punish Owczak. They followed him home and killed him When questioned about the crime they admitted it, saying that "brotherly solidarity compelled their revenge, as Owczak had no right to dismiss one of them, since all were equal." The eldest of them was 16. The most appealing part of the story is that all palling part of the story is that all these children planned the murder to these children planned the murder la-gether and no one was found among them who had enough conscience to tell the authorities or to warn Owczak of the fate which awaited him.

CHILDREN'S VENDETTA

A somewhat similar case of revence occurred in the Caucasus recently. There the people scarcely ever think of taking their griovances to a tribunal; all disputes are settled privately—by means of the knife. But even in the Caucasus vendeita used to be left to grown-up men and women. Now the children indulge in it. A well-to-do peasant was murdered by his neighbor. Several of the dead man's family were mere children, and among them was his younger sister, a girl of 16. was his younger sister, a girl of 10. She called all the children of the vil-lage together and usked what was to

followed and arrested. Each of them had a bomb filed to a stick he was carrying. They confessed to having made the bombs themselves with old sardine tins, a little nitro-glycerine and some bits of iron. The police have now issued orders forbidding the sale of nitro-glycerine to customers unless mixed with some other ingredient that renders it non-explosive.

KILLED BY BOYS.

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INCREASE IN IMMORALITY.

Three of the children who took part Three of the children who took part in the train wrecking at Lapy were the sons of well-to-do parents, one of an engineer and the other of a doctor. This means that they had not been brought up in the streets, but received some kind of training at home and in school. That this training is getting worse and worse is proved by the appalling increase in immorality among schoolboys and girls in Russian towns. It is this fact that has finally stirred the governors of provinces to action.

The average Russian teacher takes

The average Russian teacher takes o interest whatever in his pupils after no interest whatever in his pupils after school hours. Where they go and what they do concerns him not. As he often takes boarders—whose parents live some distance from the school—it is easy to understand that 50 per cent of the schoolchildren are left entirely alone as soon as their lesson books are shut for the day. Towns are rew and far between, so the homes of the majority of the pupils are miles away. and far between, so the homes of the majority of the pupils are miles away. Whether the commissions lately convened by the governors of provinces will do any good is a matter of doubt. The root of the evil lies in the school system; in the lack of institutions for watching and providing for children who have no parents to do so, and in the absence of proper home training. Until these wants are supplied all the police orders in the world will not prevent the terrible increase in infantile crime, which is at last occupying the crime, which is at last occupying the attention of all those who take the trouble to think in Russia, Meanwhile, the prisons are filled with children, and the growing generation is ruined, physically and mentally, before it leaves the school room for the world.

MARIE FILON.

of the School of Physics and neer, of the school of Physics and Chemistry, where he was a pupil of Prof. Curie, whose name is for ever connected with radium and whose tragic death is still in every one's memory. Curie was worshipped by his pupils who looked upon him as a dear friend rather than as a professor. dear friend rather than as a professor. A little anecdote Illustrative of this great scientist's modesty is too good to be omitted here. "At a time when the whole civilized world was ringing with Curie's fame," said M. Gustave Laudet to me, "I met him one Sunday up by the Avenue de l'Observatorie. He was wheeling the perambulator in which was his first born baby and his wife was hapefus on his arm. They

Guests of the Ambassador's Daughter Relegated to Garret.

Curie, whose modesty equals that of her hudand, has taken the lamented professor's place at the College de France and is carrying on his work of research. CHARLES DUBOIS.

ONDON, Dec. 31.-It was a case of either letting the magnificent sport on the Chilton estate go this season or arriving at some decision whereby sportsmen could be soused under difficulties. The Hon. Mrs. John Ward, nee Jean Reid, tackled the problem and managed to put up her friends in the story under the roof at her newly acquired home. For the beautiful "Lodge" is in the hands of builders and decorators notwithstand-ing the fact that the late tenant had Just spent \$15,000 upou it.

The guests, who included the Duke of Roxburghe, Mr. Ward's sister, Lady Wolverton and her husband, said they never enjoyed a visit more and made very light of the inconveniences which were naturally attendant on the con-lition of the establishment. Although they were housed in the garrets, the coms were comfortable, the chief frawback being that they had to use the servants' stairs, the front ones beng full of the scaffolding of the work-

Chilton has been bought outright and some fix the sum puld for it at \$500,000. It is a wedding gift from Mrs. Ward's parents, she having had the choice of ther a country or a town house. The mooting on the estate is some of the moting on the e

Il is an immense house with scores of edrooms so that when the mansion s finished. Mrs. Ward will have her heart's desire, namely, be able to en-tertain big parties of her friends at one time. It is built in Georgian style, a period when architects had such a capacity for getting atmosphere and space into their work together with solid comfort which has never been equalled in the more artistic periods since. There is a valentid determined. since. There is a spendid picture gallery at Chilton which will, in time, no doubt be filled with works of art. It has precious and priceless stained glass windows and is paneled in beautiful old mahogany

SUMPTUOUS BELLE.

No one expressed the least susprise at the announcement of the engagement of Lord Granard and Beatrice Mills "the magnificent Beatries," as we si call her here, save a few noted frish belies who in spite of definite knowl-edge to the effect that Granard intendto hang up his hat at the home of e Ogden Mills, insisted that he would et marry a girl of his own country. Heatrice is over-dressed," said the rish bettes. "Beatrice tooks as if she was advertising a jeweler's shop, Gran-ard, like every man hates and detests an over-dressed woman." So on and so

Mirs Mills has certainly been the most sumptuously attired young girl who has

balls, and that is saying a lot. Many a time she has cut out even American duchesses in the glory of her jeweis. It monstrated with her on her love of jewelry, but that she laughed him to scorn and, in a lady-like way, said something which spell "mind your own business." Probably the knowing young minx realized that this was about the best way she could go about bringing him up to the point. He is one of the men, for, of course, he is a great parti, who has been satiated with atlentions from all sides. A man in his position could practically marry anyone! It was Beatrice's "cheeky" manners and independence which did the trick. Like every other American belle who has married into the British aristocracy, she refused him at first, realizing that this would for a dead "cert" make him all the more determined to get her.
But what religion is she? There's the rub. If my memory serves me rightly she is not a Roman Catholic and there will be ructions in Ireland as well as in other quarters if Lord Granard's wife is not.

As the wife of a lord-in-waiting to the king, the future Lady Granard will lave two magnificent royal carriages at her disposal with servants who are

As the wife of a lord-in-waiting to the king, the future Lady Granard will have two magnificent royal carriages at her disposal with servants who are privileged to wear the royal liveries. On state occasions, such as courts and balls, the carriage of the lord-in-waiting has the right to take precedence of all others after those of royalty. Mr. and Mrs. McCormick Goodhart are spending the holidays at Boughton, their beautiful seat in "the garden of England," as we like to call Kent which many people consider the loveliest county in England. The McCormick Goodharts recently celebrated their golden wedding at their town house in Eaton square with true American generosity and now the event is to be observed with far more colat at their country seat, all the poor people and their children as well as the county families having been invited to come and make merry in honor of the occasion. Mrs. McCormick Goodharts is one n Mrs. McCormick Goodhart is one the Lady Bountifuls of Kent and and her husband are immensely pular all around Eoughton, although opular all around Ecughton, attacage are but comparatively new people a the neighborhood. The county families are very anxious that they should but the place, for although the Goodarts are by no means young people hey nevertheless have made the whole reserved itselv and have scattered

harts are by no means young people they nevertheless have made the whole district lively and have scattered money right royally. Boughton is an exquisite spot with prim old-world gardens, the house being quaintity pictuesque and commanding lovely views. Lady Barrymore, Mrs. Adair's sister, remains far from well. She spent, by her doctor's orders, several weeks lately in Brighton. It was the medico's wish that she should stay at "London-by-the-sea" for the entire winter, but she dashed over the traces and said even if she died she would go home to her lovely Fota, in Ireland, to which she is most passionately devoted. Fota is, as most people know, an island of which Lord and Lady Barrymore cares precious little for society, a peculiarity no doubt she has acquired from her husband who bates it and usually files to remote parts if possible on the rare occasions when his wife does a fittle entertaining in London. Nellie Post, Lady Barrymore's daughter of her first marriage, spends most of her time with her lively and charming aunt, Mrs. Adair, for it is not surprising to know that the girl gets bored to death on the Irish island, beautiful though it may be.

All Mrs. James McDonneil's friends

gets bored to death on the Irish Island, beautiful though it may be.

All Mrs. James McDonneil's friends here have been greatly grieved to hear of her serious iliness in Paris. She has bad to have her eyes operated upon, I near, and has had a most trying time. This coming on the top of her husband's long illness makes matters worse. Mrs. McDonneil has been saying that "moncy is such a poor thing if you are very ill," and that "it won't buy health." The McDonneils have truly proof positive of this, for James buy health." The McDonnells Bays ruly proof positive of this, for James McDonnell has searched the world almost to recover his, and though somewhat better never expects to be strong. "HEN LUNCHEONS."

Some of the jolliest parties in Lon-on are given by Mrs. James McDon-ell at her lovely house in Cadogan quare. It was she who first infro-nced us to "hen luncheous" and the cason before last they were cuite a cature and smart English women of tell as American, fought to be invited in fact, if you could not say you had sen to one of these gatherings you are regarded as a nobody. Last sea on she did practically nothing owner o her husband's ill-health. It is feared it will be many a day before the telionnell's hospitable house in Loncon is again opened. Meanwhile the linds are all drawn. It is one of the ouses which are never let to strangers, to McDonnells considering their beautients. strangers. According to present arrangements the McDonnetts are not expected back in London until the laterpring, Mr. McDonnett's health of laterpreduding absolutely any possibility of their spending any part of the cultiweather in town.

LADY MARY.

telephone, especially in the sibilant or hissing consonants, s, ch, z, f. The brothers Laudet have now succeeded in obtaining word photographs by a direct mechanical process, without the microphone. This process is for the present kept secret and only the results obtained have been communicated to the Academy of Science, without any details as to the apparatus tus, as they contemplate applying it to various industrial purposes.

MARVELOUS PHOTOGRAPHS.

By the aid of their apparatus the Laudets have photographed human Laudets have photographed human speech without the slighest deformation. They have obtained photographs of entire sentences with absolute fidelity. A careful study of the photographs has enabled them to draw some important conclusions regardome important conclusions regard ing the general phenomena of phona-tion; the mechanism of the formation of vowels and consenants, the influ-

ence of pitch, etc.

Their photographs are so sensitive as to show the differences in the articulation of different people, so that it is possible to study the causes of speech deformation and defects. As an illustration of the nicety and precision of the apparatus it may be ex-plained that in certain sentences it is possible to detect the slightest lisp and breath. In Gustave Laudet's own words: "When the mechanical parts which serve as the registering parts which serve as the registering nedium are displaced under the actio of the sounds by infinitely smal ectly reproduced on the photographic plate. Thus we have been able to photograph certain of these vibrations the magnitude of which did not exceed 1-50,000th of a

The Laudets call attention to an imcortant consequence of their observais far from being terminated. "The photographs of yowels a. e. l, o, u. vowels sustained on a particular note. present successive periods identical among themselves," said Gustave Lau-Such curves are, however, only obtained in registering songs or slow conversations without intenation.

"The registering of an ordinary conversation, on the other hand, indicates that the successive periods of the curve of any towel whatever are not identical among themselves. All the identical among themselves. All the time that the vowel is being pro-nounced, they undergo continual modi-fications arising from the variation in volume of one or more of the com-posing harmonics, be it from the dis-appearance or reappearance of certain of these harmonics.

"In a running conversation the dif-

ferent organs forming and modifying the resonant capacities are constantly in movement; the result is their continual modification, whence arises also at qually continual variation of the har-

"As an illustration, we have taken rom a phrase at random a word of wo syllables and have considerably en larged it; the delicacy of our tracings his allowed us to reduce considerably the horizontal scale, so as to rendermore apparent these continual modifications of vowels, the reappearance of onics which have become graphicall;

The curves of sound thus registered will render it possible to analyse more easily the phenomena of phonation both from the physiological point of view, as well as from the mathematical.

SERVICE TO TEACHERS.

One of the immediate results of this discovery will be the services it can render to professors of diction and to specialists when called upon to disgnose diseases, maiformations and pecultarities of the organs of the mouth and throat. In correcting peculiarities of pronunciation, such, for instance, as those of a Frenchman from the south of France, of a Brelou, of an Alsatiso, as compared with the recognised stand-ard; or those of an Irishman or Scotchman as compared with the standard of pure English; the professor of diction will find his task greatly facil-itated by being able to confront his publis with the photographic proof of the peculiarities he seeks to correct. The success which has aftended their efforts along this line of research has

been so decisive that the problem of the reconstruction of sound by means of fireworks and explosive matter is now assured and will shortly form the subject of a fresh and sensational com-nunication to the Academy of Science. I have endeavored to sketch in the

I have endeavored to sketch in the foregoing suggestions some of the uses to which Messrs. Laudet think of applying their invention.

Physiologists and physicists will certainly make use of Messrs. Laudets' discoveries in the registration of speech and sound either for the confirmation or the modification of their theories. Take, for instance, Helmholtz's theories on phonation. According to Helmholtz each vowel is characterized by one or more fundamental ng to remaind a can your is called a carrier and a carrier

MANUFACTURERS ALERT.

MANUFACTURERS ALERT.

It is, however, especially manufacturers and tradesmen who are watching these discoveries with interest, for the application of them to industry bids fair to furnish them with freshoutiets for their commercial activity. Georges and Gustave Laudet seemed predestined to become inventors, for their father. George Laudet, was a mechanical engineer of considerable reputation. Among his numerous inventions was that of the steam crane in 1850. Ten years later, he invented a machine for extracting huge blocks of stone from quarries and reducing a machine for extracting huge blocks of stone from quarries and reducing them automatically to paying stones. Numerous models of his various inventions are still exhibited at the Conservatoire National des Arts et Metiers in Paris.

M. Georges Laudet, his son, became a civil engineer, and devoted himself above all to the study of electricity and mechanics. For the last eight years he has specialized in acoustics, seeking to reconstruct and amplify sound. The results he has obtained in that relatively short space of time are truly astonishing.

PUPIL OF PROF. CURIE.

M. Gustave Laudet is also an engi-